

DIRECTIONS FOR OPERATING

THE NEW McINTOSH POLYSINE GENERATOR

For A. C. Type #1158, #1168, #1178 or #1188

or D. C. Type #1155 or #1165

To Connect in Circuit. At the back of the Polysine will be found two sockets. The upper is to connect the apparatus to the ordinary lamp or wall socket; the lower is to supply current for pad heater connection.

The Pilot Light, marked "A", is located at the left of the M.A. Meter. This is a most important addition as a check up on the frequency of the pulsations as indicated by Wave Controller "H". The pointer of milliammeter also indicates the frequency of the pulsations of modalities #2, 3, 5, 7, 8, 12, 13, 14 & 16.

The Modality Selector, marked "F", on the lower left corner, controls the type of wave to be given to patient. One turn of the knob permits any one of 16 modalities (hereinafter illustrated and described) to become available. The pointer line must coincide exactly with the modality indicator line. Always turn voltage control "J", to "off" before changing a modality, while giving treatments.

The Milliampere meter. The pointer very accurately indicates the current being used on the following modalities, viz: 1, 2, 3, 5, 7, 8, 11, 12, 13, 14 and 16. Currents No. 4, 6, 9, 10 and 15 from their character cannot be indicated by this milliamperemeter. Two scales are provided and on the front of the M.A. meter is a hexagonal rubber knob, whose three sides are marked "Off", "30" and "150". When the word "Off" is uppermost it indicates that the M.A. meter is out of the circuit. When the "30" is uppermost the meter must be read on the red scale 0-30 M.A. When the "150" is up then use the black scale and read from 0-150 M.A. The knob may be rotated in either direction. The meter may be detached by lifting it from the apparatus, as it is fitted with a slip socket.

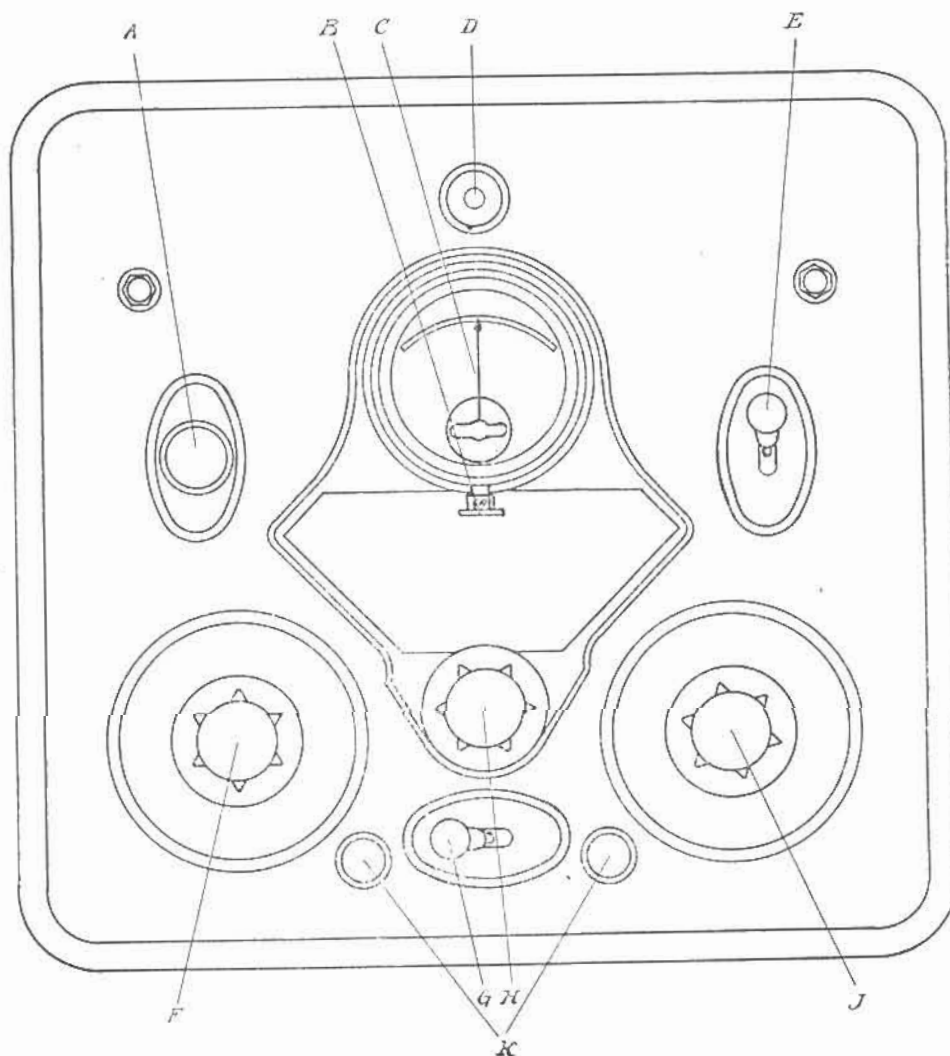
The Wave Controller. This is marked "H" and controls the frequency of the surges. The dial is very accurately graduated. To increase frequency turn knob counter clock-wise. To decrease, turn clock-wise. This controller does not control modalities No. 1, 9, or 11 and while using them the wave controller pointer should be placed at 10. All other modalities are controlled by controller "H".

The Pole Changer, marked "G", indicates the polarity of the galvanic currents No. 1, 2, 5, 8, 11, 12, 13, and 16; and, if desired, will change the polarity instantaneously. An arrow at the switch lever base indicates the positive binding post "K". The other binding post will be negative. To avoid shock, it is advisable to not change polarity until voltage control "J", has first been turned to "Off".

Voltage Controller, marked "J". Turn knob clockwise to increase voltage. Opposite direction reduces voltage. The dial is accurately graduated from 0 to 100. This gives perfect voltage control for patient or output circuit. The extreme left position of knob is "Off" and the knob must be turned very slowly toward the right to increase current.

Switch, E, cuts off current entirely from motor and modality selector. If supply circuit connecting the upper socket in back of Polysine is turned on, Switch "E" is used to close or open circuit supply for Polysine. When Polysine is not in use turn this switch off.

McINTOSH POLYSINE GENERATOR NO. 1158



FOR KEY OF ABOVE SEE PAGES 1 AND 3.

Pad Heater. The new Polysine is furnished with an excellent pad heater which can be attached to either side as desired, by inserting the curved lugs on the back of the heater underneath the crosspiece on the Polysine body, the heater being supported by the handle of the Polysine stand. The straight lugs extending from the bottom of the heater slip on the inside of the handle and securely hold the heater in place. The supply wire comes out of the bottom of heater and goes to the rear of the Polysine and is plugged into a socket. On the heater you will find two lever switches marked respectively "on", "off" and "hot", "warm". The "on" and "off" switch turns the current on and off; the "Hot" and "warm" switch regulates the intensity of the heat. The "On" and "Off" switch of pad heater is provided for the heating of pads before the operation of Polysine proper. Turn the switch levers toward "On" and "Hot" for about 15 minutes, when pads will be quite warm; if the heat obtained is enough for pads use, turn intensity switch toward "Warm" and an even heat may be had to keep pads warm during treatments. When heater is not in use, turn heater switch off. The intensity switch need not be touched when turning off heater supply.

Hints for Testing. After setting up the Polysine, turn modality selector "F" to modality No. 1 (galvanic current). Turn main switch "E" on to start motor. If all is O.K., pilot light will light up and burn steadily. If this is not the case, turn voltage controller "J" to about 50. Set knob "B" of milliammeter at 30, grasping the terminal knobs "K". Current will be indicated by milliammeter. If no current is indicated or felt, advance voltage controller "J" to about 75; grasp knobs "K" again and note milliammeter reading. If current is indicated and pilot light does not light, remove screws from red crystal escutcheon plate and see if lamp is tight in socket, as it is possible that same got loose in shipping. If not loose, set modality selector to No. 3 (Slow Galvanic Sinusoidal). Set voltage controller to about 50 with knob "B" of Milliammeter at 30, grasp knobs "K" again and if circuit is O.K., meter needle will swing to right and left of zero indication of meter. If a greater swing is desired and current could be stronger, advance voltage controller somewhat and note needle swing. If needle swings back and forth, the Polysine works O.K. The oscillations of meter needle are controlled by wave controller, "H". If, after making this test and pilot is still not indicating, same may have been damaged in shipment and should be replaced if desired. The operation of this light does not effect the use of Polysine and may be left out. However, the use of it will enable the operator to check the frequency of the current. If light is O.K., but when using modalities #1, 9 & 11, the light flickers, it should be screwed tight into the socket as a loose bulb will vibrate and cause flickering. If motor is running, and, when making the foregoing tests no current was indicated or felt, the trouble may be in the pole changer "G". When moving lever of same to either side, a snap should be heard; if not, it may be possible that it was bent in shipping and should be adjusted. Trouble from this source is very rare. The pointer of modality selector must coincide with line on dial and voltage controller must be turned on. The voltage controller does not effect the pilot light as the light operates independently of the controller. The knob "B" of meter must be turned to either 30 or 150 in order to obtain readings on certain modalities as stated under "Milliamperemeter".

When not in use, the Polysine should be covered to protect the instruments and working parts from the accumulation of dust and dirt. If the current becomes jerky or irregular, indicated by flickering in the pilot light, it is possible that the underside of the wire wound slate block inside the black enameled cover plate is covered with particles of dirt. To reach this block for cleaning, turn off switch "E", carefully remove milliammeter, also remove wave controller by pulling up on knob. The two screws securing the cover plate should be taken out and the cover plate lifted off. This exposes the wire wound block, which can be removed and its underside carefully cleaned with a cloth or piece of very fine sandpaper. In cleaning, never rub across the wires but always in the same direction in which they are wound. The apparatus may be easily reassembled in the reverse order of removal. Care should be exercised at all times in the above, as the parts are necessarily of delicate construction. If the Polysine is properly covered and protected from dust, this procedure should not be necessary.

Oiling. Just back of the Milliamperemeter you will find an oil cup, marked "D", with screw cap. This is the oiling system for motor and generator. REMOVE THIS SCREW PERMANENTLY. The apparatus is oiled ready for service when it leaves the factory. Fill oil system every three months with the lubricating oil which is furnished with the apparatus.

Renewals. About the only renewals that will be required for several years will be brushes, and even these should not be required for two or three years or even more. But in ordering brushes, be specific in telling us the position they are required for.

If, after continued service over a period of years, the Polysine does not operate properly with motor running, trouble may be inside of Polysine. In order to investigate the inside of machine, proceed as follows:

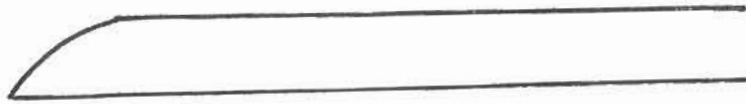
Disconnect plug from socket in back of Polysine, remove milliammeter by pulling up and lay it aside carefully. Then lift the Polysine from the stand and carefully turn it upside down on a thick, soft pad. Unscrew the two wing nuts and lift off the base and the entire mechanism will be revealed. It is then easy to examine every brush for defects, etc. Every Polysine is thoroughly and painstakingly tested by experts before being packed for shipment and it will be very unusual for even a minor defect to show up within several years for hard usage.

THE DIFFERENCE BETWEEN THE A.C. UNIT AND THE D.C. UNIT

A great advance has been made in making these two units exactly the same--with one exception. The A.C. unit uses an A.C. motor and the D.C. unit employs a D.C. motor. The operation, control and therapeutic application is the same.

MODALITIES AVAILABLE

1-4



1- GALVNIC CURRENT

Turn modality selector to point one; then throw on switch "E" and gradually turn on voltage control "J" until the required milliamperage is indicated on M.A. meter. This gives a wonderfully smooth, even, controllable, galvanic current which is being more and more employed daily in the treatment of many intractable conditions.

The galvanic current from its polar effects is indicated in electrolysis, ionization, stimulation or sedation, for acid or alkaline reaction. It is considered by many authorities to be the most useful modality in physiotherapy. It is of great value in testing for nerve and muscle degeneration and in the successful treatment of same.

2



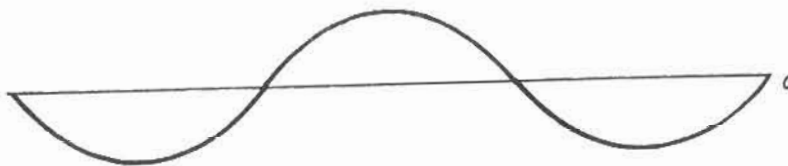
Para

2- UNIDIRECTIONAL GALVANIC WAVE
(3-55 pulsations per minute)

This current is of real value in treating various types of paralysis. A simple but accurate rheostat gives perfect control. The control dial as well as the pilot lamp indicates the exact number of pulsations. The wave has practically the same sensation as the slow galvanic sinusoidal but maintains its polarity or chemical properties. Of great value for treating adhesions with hard and indurated scars.

3

Slow Gal. Sine

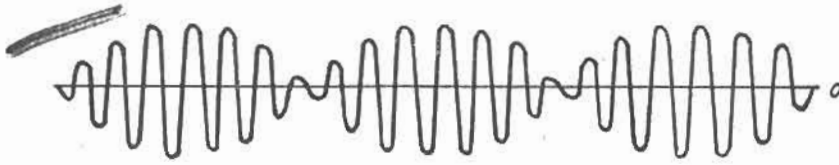


3- SLOW GALVANIC SINUSOIDAL
(6-110 pulsations per minute)

This was formerly called the slow sinusoidal. It is an alternating galvanic current with slight polar effects and acts favorably on unstriated muscular tissues. For this reason it is much used in treating many gastrointestinal conditions.

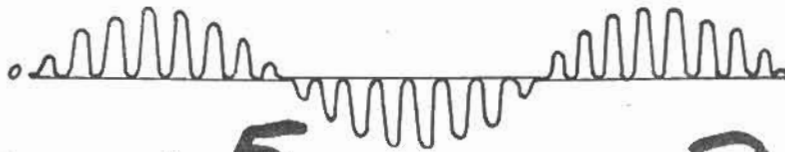
Neiswanger recommends it for treating paralyzed muscles and terms it is "practically a perfect imitation of the natural contractions that build muscular strength." Further that "it has a marked effect upon cellular metabolism and in building up secretory function, as for example: a prostate with poor secretion". Some authorities employ it in stasis that is amenable for correction through spinal reflexes. It should be used in Facial Paralysis.

*Surge
alt
4*



4- ALTERNATING SINUSOIDAL WAVE
(6-110 pulsations per minute)

Formerly called surging sinusoidal current. It is produced by sending the rapid sinusoidal through the rotor which forms and controls the 'surge'. It is much used in breaking up adhesions and in the regeneration of impaired nerve function. Eberhart likens the 'surge' to a string that cannot be broken by a steady pull but is easily broken by a sudden jerk. He first employs diathermy and follows with this current.



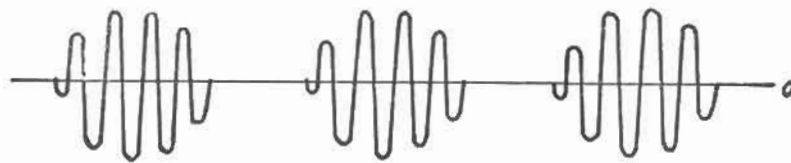
7th + 8th - Done 5

5- SUPER-IMPOSED WAVE
(3-55 pulsations per minute)

Rieds Flat

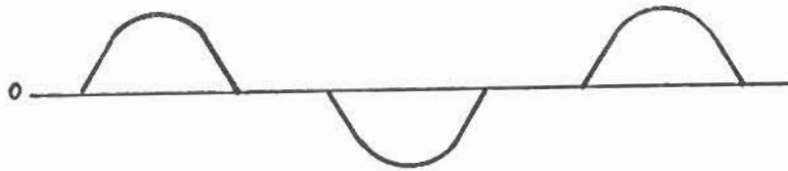
A compound wave formed by super-imposing a rapid sinusoidal on the galvanic current and retaining the valuable therapeutic properties of both. It controls deep abdominal and pelvic contractions and hence is indicated in visceral or pelvic ptosis.

Excellent results may be obtained by applying the current at the seventh and eighth dorsal vertebrae. Many clinicians first give a stimulating diathermia and follow immediately with this current to break up and absorb deep adhesions. Try it in 'flat foot' with "Cross" technique.



6- ALTERNATING SINUSOIDAL INTERRUPTED
(6-110 Interruptions per minute)

This current interposes a period of rest between each wave and thus permits longer seances without fatigue. Eberhart refers to it as "It is a true tonic to the nerve function." "No matter what the nerve is or the name of the disease, you are always on the right road if you employ the interrupted alternating sinusoidal."



7- SLOW SINUSOIDAL INTERRUPTED
(6-110 pulsations per minute)

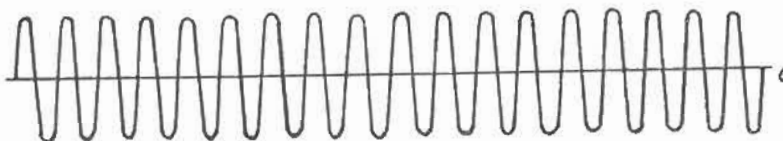
A period of complete rest is imposed between each half sine. It is a type of slow galvanic sinusoidal with the addition of the interruption and can be employed for a considerable time without tiring or over-exercising the unstriated muscular tissues. As a paralytic muscle responds much better to a slow than to a rapid impulse, this current is indicated in such conditions.



8- INTERRUPTED GALVANIC WAVE
(3-55 pulsations per minute)

Many clinicians have been demanding this particular wave and consequently it has been added to the new Polysine. It is a unidirectional current rising until it nears the peak, rounding off until it passes the peak and decreasing until it reaches zero. A period of complete rest follows and thus fatigue is prevented.

This current is used in nerve degeneration. Also as a diagnostic agent. It is somewhat smoother than the interrupted galvanic.



9- RAPID SINUSOIDAL

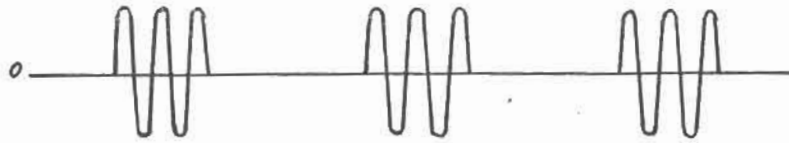
7000 Cycles per minute -- 14000 Alternations per minute

This current, depending on the rapid sine produces no polarity effects and is much used in promoting muscular tone. It acts favorably by its exercising effects in removing the sequelae of fibrositis, but for this purpose should be given at a point just below that necessary to produce contractibility.

Neiswanger prefers it in the treatment of peripheral nerve atonicity. This current will inhibit all forms of pain but many American clinicians condemn it for this purpose because of the danger of masking more serious pathology.

Waggoner uses it for massaging adhesions, deposits, etc.

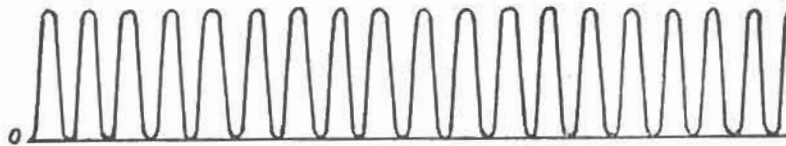
Mild treatments stimulate; while heavy treatments produce sedation.



10- INTERRUPTED RAPID SINUSOIDAL
(6-110 Interruptions per minute)

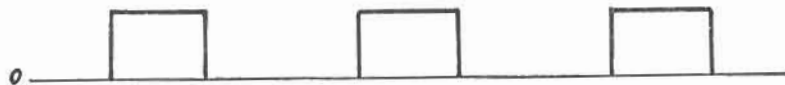
This current gives the same number of alternations as No. 9 but mechanical means are provided to interrupt the flow at definite time intervals. The period of rest prevents undue fatigue.

Nieswanger recommends it in nerve degeneration. Waggoner states, "If we split the sinusoidal current into segments with an interrupter, we have one of the finest currents where we want to regenerate nerve function." Eberhart writes, "It is a true tonic to the nerves and is the best form of sinusoidal current we have for the regeneration of impaired nerve function."



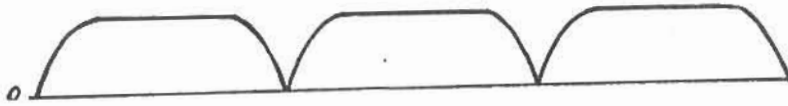
11- COMBINED GALVANIC & SINUSOIDAL

This combines two valuable currents and gives the polarity effect of galvanism with the tonic effect of the rapid sinusoidal current. Many gynecologists employ this particular modality to great advantage in female G.U. pathology, although long seances are somewhat fatiguing. Many uses will suggest themselves to the attending physician, considering this combines sinusoidal and chemical action.



12- INTERRUPTED GALVANIC
(6-110 Interruptions per minute)

A special commutator affords current flow and current break of proper duration, thus furnishing much more accurate and dependable interruption than obtainable with the old style rheotomes. Nearly all, clinicians employ this current for testing the reaction of degeneration for if the muscle fails to respond, it means that a final diagnosis can be made.



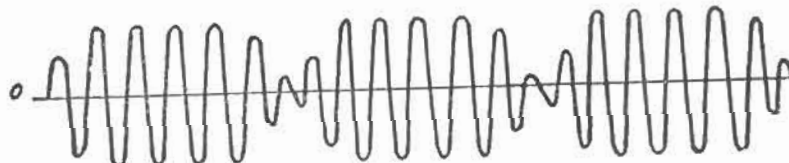
13- GALVANIC WAVE, SUSTAINED PEAK
(3-55 pulsations per minute)

An unidirectional galvanic current somewhat similar to the galvanic wave with the exception that after the current leaves zero line it rises somewhat more abruptly to the peak. The current is maintained at the maximum for almost one-half phase and decreases to zero as abruptly as it rose from zero. Somewhat similar to the interrupted galvanic except it does not rise to the peak so abruptly and again there is no rest period between waves. Its greatest value lies in intestinal atony with muscular degeneration. A very smooth wave current with full polarity effect.



14- SLOW GALVANIC SINUSOIDAL, SUSTAINED PEAK
(6-110 pulsations per minute)

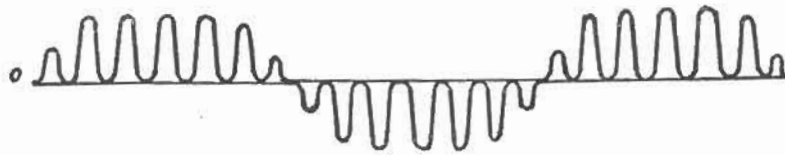
A current long demanded by the medical profession and only added to the Polysine after long clinical tests. It is quite similar to No.3, but much more positive and active. This is provided by the sustained peak. The current reverses itself at the end of each phase and thus gives only a very mild polarity effect while at the same time giving the regenerative action of galvanism. It stimulates the contractibility of muscular tissue without nerve stimuli.



15- ALTERNATING SINUSOIDAL, SUSTAINED PEAK
(6-110 pulsations per minute)

This new current will satisfy the physician's every need for a very strong push and pull effect, without polarity, for the combined tonic effect on nerves and muscles. In cases of Intestinal Stasis and where prolapsed colon exists and a more powerful stimulant is required to stir up the sluggish musculature into action this current can be relied on.

Before seriously considering the claims of other widely advertised wave current generators, the intending purchaser will do well to thoroughly compare all makes of apparatus before reaching a final verdict.



16- SUPER-IMPOSED WAVE, SUSTAINED PEAK
(3-55 pulsations per minute)

A very powerful current giving considerable polarity effect. The feature of the sustained peak gives a most powerful 'pull' effect. This current is similar to No. 5 but stronger and tends to become fatiguing if over-used. Robust patients, will, however, get much more rapid results.

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